

IN THE CLAIMS:

Kindly amend claims 1 and 10, as shown below:

1. (Currently Amended) A method of dry treating a target surface prior to packaging the target for subsequent use in a sputtering deposition process, comprising the steps of:

- a) preparing a target assembly and securing said target assembly in a vacuum chamber of a magnetron sputtering apparatus;
- b) energizing the magnetic component of the magnetron sputtering apparatus with a power between about 0.2 kW and about 4 kW for a period of time between about 4 and about 30 minutes to produce a surface dry treatment of a sputtering ion plasma ~~on an exposed surface to treat the primary sputter erosion zone~~ of the target to effectively reduce inherently undesirable impurities on the ~~exposed surface~~ sputter erosion zone, thereby reducing the subsequent burn-in time by at least 10% as compared to an untreated target;
- c) removing the treated target assembly from the magnetron sputtering apparatus;
- d) machining substantially the entire surface of the target to the level of the treated primary sputter erosion zone, thereby reducing the subsequent burn-in time by at least 10% as compared to an untreated target, wherein said burned-in target effectively reduces the R_s uniformity of the wafer at least 10%; and
- ~~d)~~ preparing and packaging the target assembly for subsequent use in the sputtering deposition process.

2. (Previously Presented) The method of claim 1 wherein the magnetron sputtering apparatus is rotatable and the magnetic component of the magnetron sputtering apparatus is disposed on less than a 180° arc measured at the axis of rotation of the apparatus so as to produce a rotatable sputtering ion plasma on the exposed surface of the target.

3. (Previously Presented) The method of claim 1 wherein the exposed surface is treated for a time period between about 8 and about 10 minutes and a power of between about 0.2 kW and about 0.4 kW.

4. (Previously Presented) The method of claim 3 wherein the exposed surface is treated in an inert atmosphere.

5. (Previously Presented) The method of claim 4 wherein the inert atmosphere is argon.

6. (Original) The method of claim 1 wherein after removing the target assembly from the magnetron sputtering apparatus in step c), at least the surface treated portion of the target assembly is placed in an enclosure to protect it during storage and shipment.

7. (Previously Presented) The method of claim 6 wherein the enclosure is metallic and the metallic enclosure containing the target assembly is further placed into a different enclosure.

8. (Previously Presented) The method of claim 1 wherein the target material is selected from the group consisting of titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, or alloys thereof.

9. (Original) The method of claim 2 wherein the magnetic component is FeNdB.

10. (Currently Amended) A method of dry treating a target surface prior to initial use of the target in a sputtering deposition process, the method comprising the steps of:

- a) preparing a target assembly and securing said target assembly in a vacuum chamber of a magnetron sputtering apparatus;
- b) energizing the magnetic component of the magnetron sputtering apparatus with a power between about 0.2 kW and about 4 kW for a period of time between about 4 and about 30 minutes to produce a surface dry treatment of a sputtering ion plasma ~~on an exposed surface to treat the primary sputter erosion zone~~ of the target to effectively reduce inherently undesirable impurities on the ~~exposed surfaces~~ sputter erosion zone;
- c) removing the treated target assembly from the magnetron sputtering apparatus;
- d) machining substantially the entire surface of the target to the level of the treated primary sputter erosion zone, thereby reducing subsequent burn-in time by at least 10% as compare to an untreated target, wherein said burned-in target effectively reduces the R_s uniformity of the wafer by at least 10%;
- d) packaging the target assembly for subsequent use in a the sputtering deposition process;
- e) assembling the target assembly into a sputtering apparatus to coat a substrate; and
- f) ~~sputtering the target assembly to burn-in the target assembly wherein the burn in time is reduced by at least 10% compared to an untreated target.~~

11. (Previously Presented) The method of claim 10 wherein the exposed surface is treated for a time period between about 8 and about 10 minutes and a power of between about 0.2 kW and about 0.4 kW.

12. (Previously Presented) The method of claim 11 wherein the target material is selected from the group consisting of titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, or alloys thereof.

Claims 13-20 (Canceled).